Headquarters U.S. Air Force

Integrity - Service - Excellence

Kunsan Focused Effort and the Counter-Biological Warfare Concept of Operations

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AF/XOS-FC
December 7, 2005

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Overview

- Background
- C-BW Objectives
- Kunsan Focused Effort (KFE)
- Counter-Biological Warfare Concept of Operations (C-BW CONOPS)
  - Tenets & Approach
  - Implementation

C-CBRNE Ops Program

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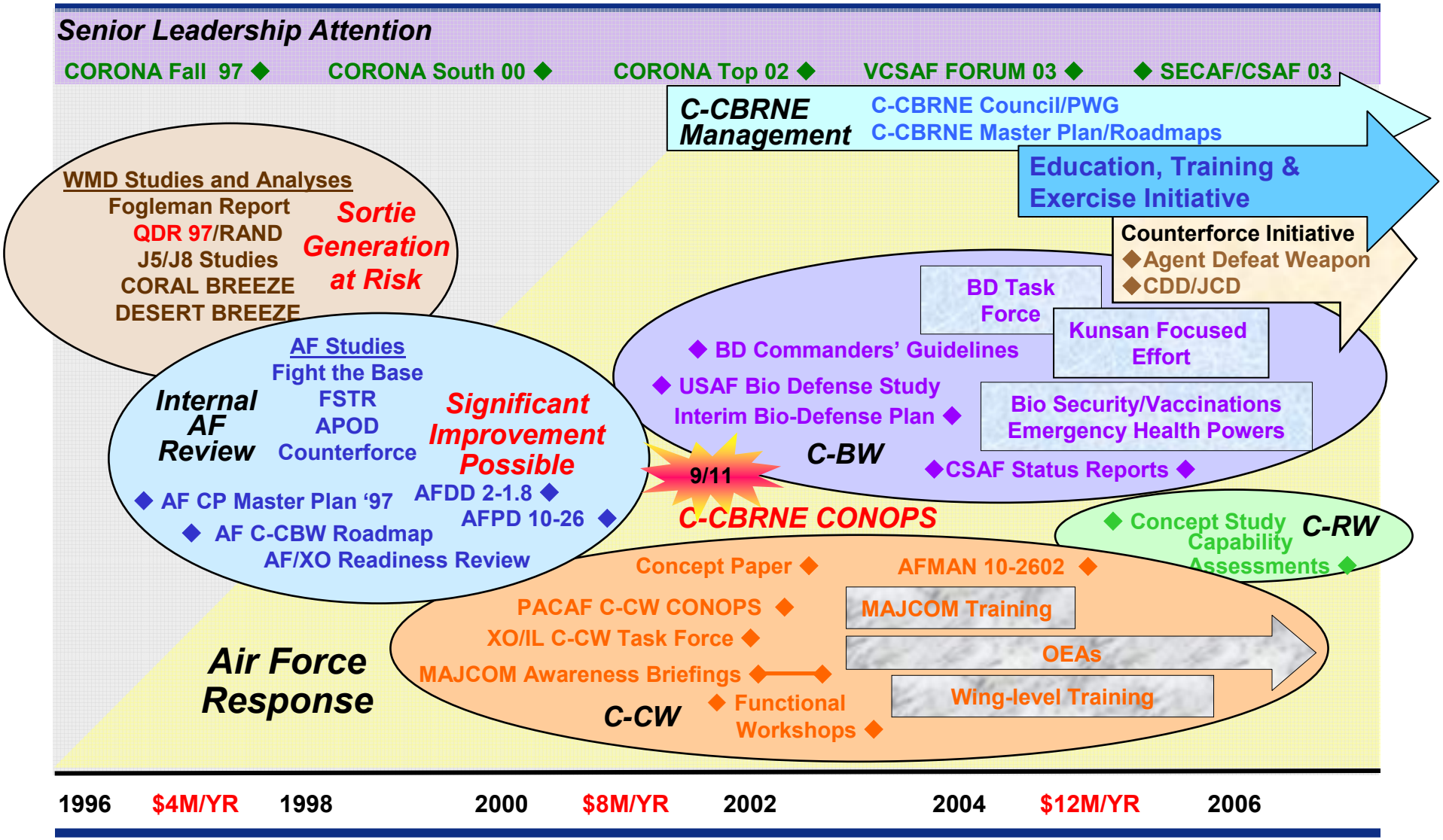

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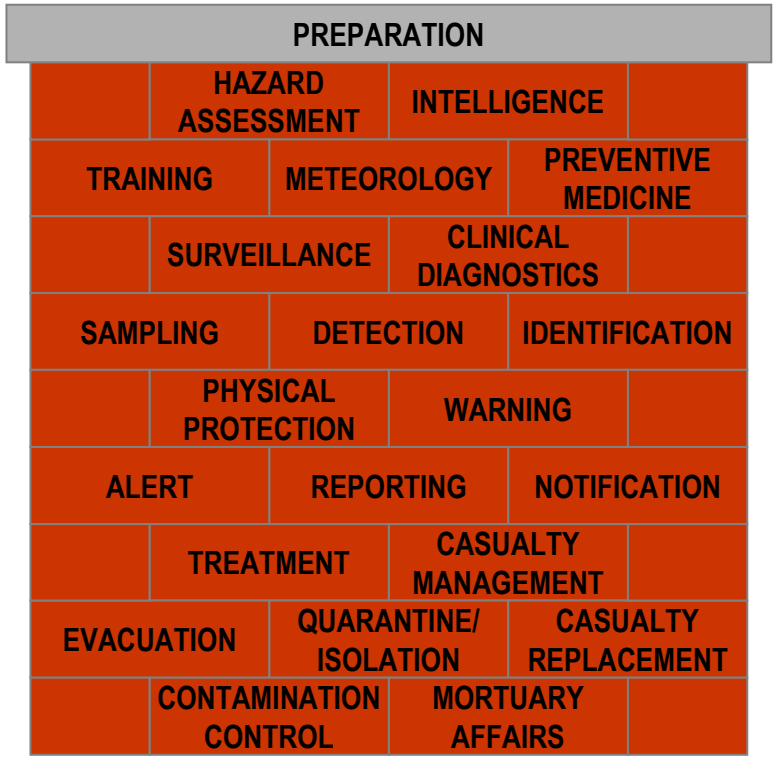
KFE Objectives

- Produce operationally relevant C-BW strategies, plans, and procedures
  - Non-materiel solutions developed by functional experts and based on scientific data and ops analysis
  - Use existing wing C-BW capabilities / infrastructure
  - Complement C-CW procedures
- Provide the basis for a C-BW CONOPS and guidance for AF units to prepare, respond, operate, sustain, and recover



"To develop and institutionalize a comprehensive, AF-wide counter-biological warfare concept of operations for both deployed forces and homeland defense."
CSAF Message July 2002

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Base Selection Considerations

- High ops tempo, wartime posture, and recognized threat of BW attack
- Senior leadership buy-in and commitment
- Senior staff stability throughout study period
- C-BW materiel and non-materiel solution sets in place (e.g., C-CW CONOPS in place, updated FSTR 10-2 plans, DoD sampling kits, RAPIDS, standard laboratory capability, in-place patient decontamination, etc.)

- Aggressive exercise schedule that can be leveraged

PACAF/CC approved Kunsan AB as test-bed (KFE)

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"The Wolfpack"

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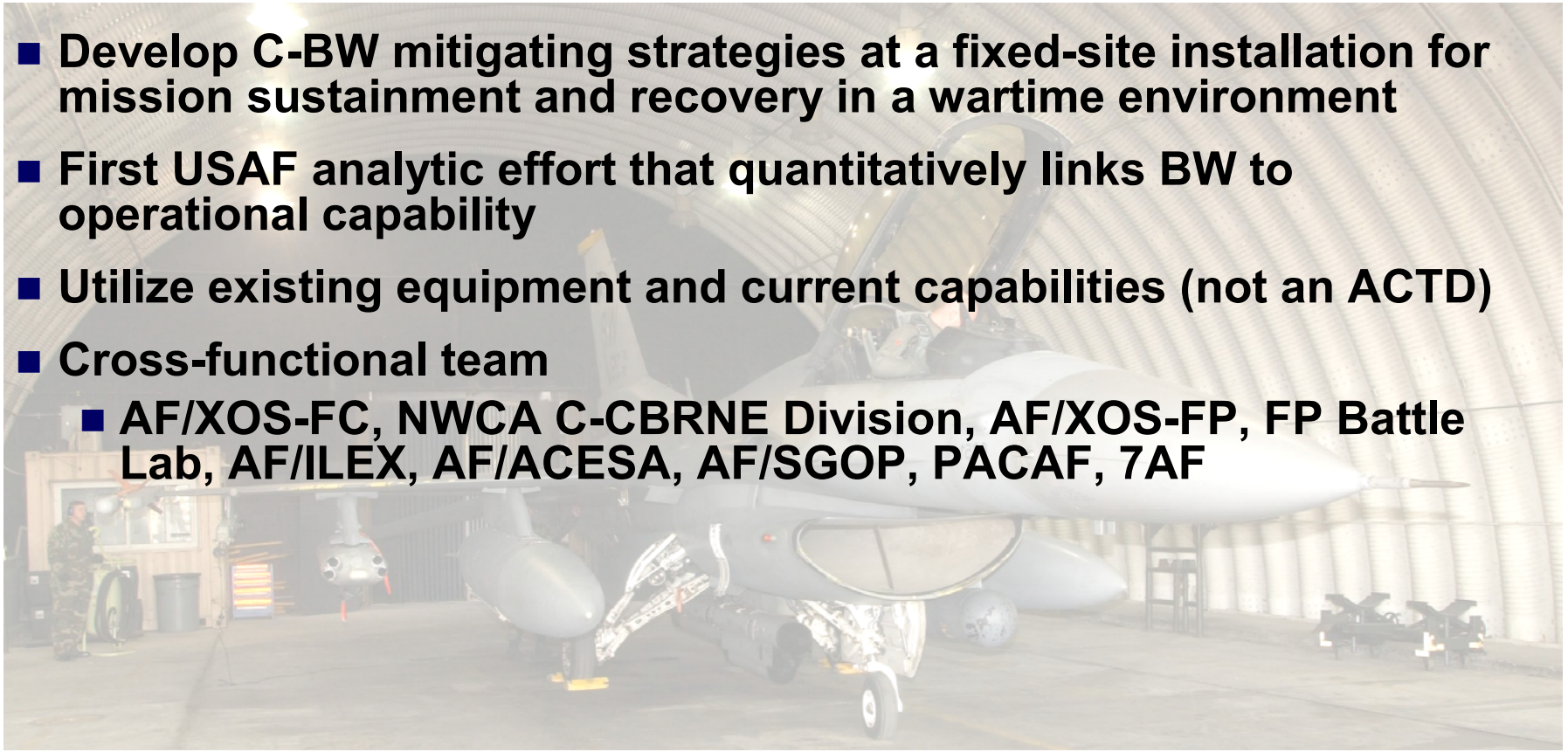
Kunsan Focused Effort



- Develop C-BW mitigating strategies at a fixed-site installation for mission sustainment and recovery in a wartime environment
- First USAF analytic effort that quantitatively links BW to operational capability
- Utilize existing equipment and current capabilities (not an ACTD)
- Cross-functional team
  - AF/XOS-FC, NWCA C-CBRNE Division, AF/XOS-FP, FP Battle Lab, AF/ILEX, AF/ACESA, AF/SGOP, PACAF, 7AF

Improve USAF ability to recover and sustain operations in a BW environment in a real world setting

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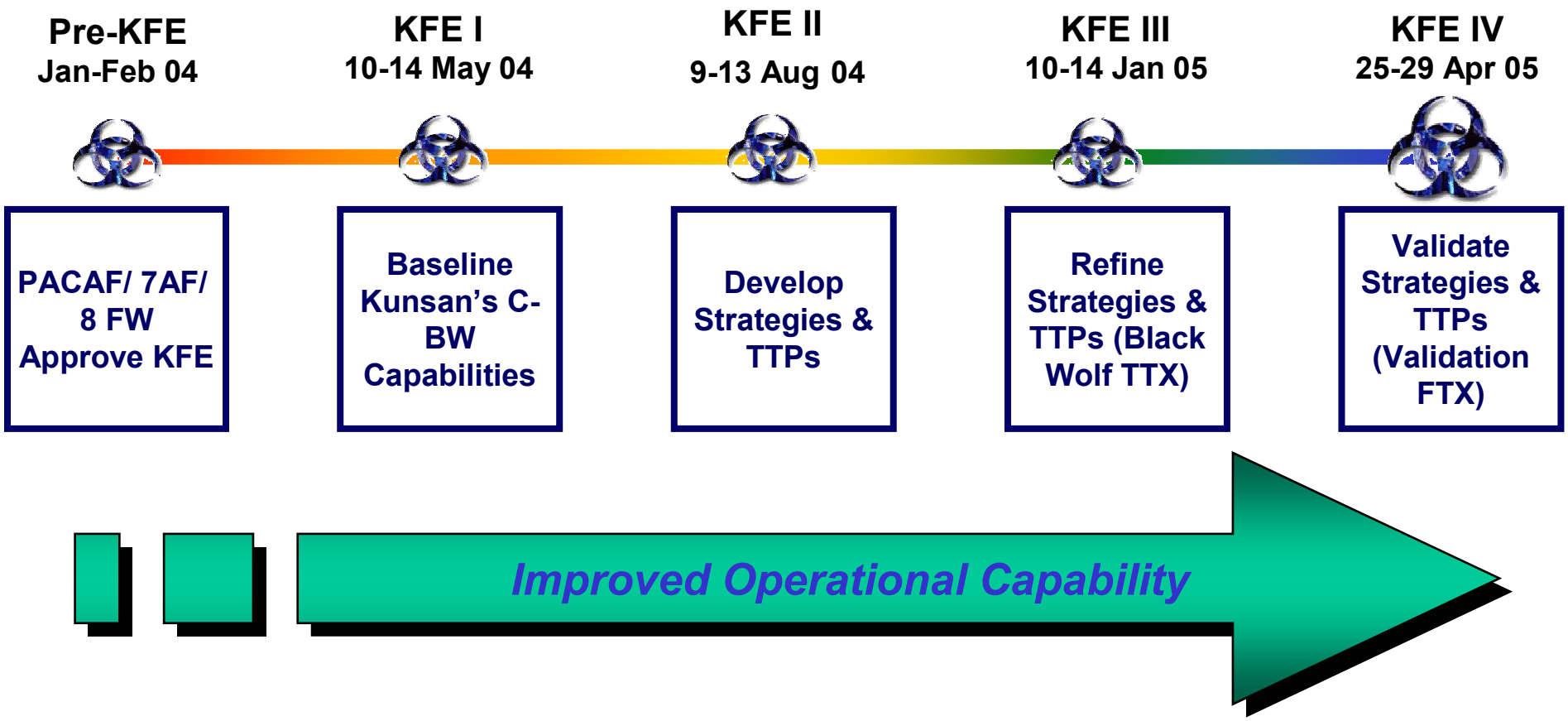
KFE Timeline



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Baseline Assessment (May 04)

Kunsan can mitigate the effects of a BW attack, BUT…

- Requires additional understanding of the nature of BW
  - C-CW TTPs well rehearsed, but often inappropriate for C-BW
- Must optimize use of detection devices/methods available
  - First detection of an attack may be casualties
- Need basic C-BW plans/guidelines
  - Preparation and prompt decision making are key to success
  - Not a "MDG problem" to solve; must involve entire base
- Personnel turnover rate impacts C-BW readiness
  - Need to document solutions and plans
- Combined / Joint operations complicate planning and response

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Key Operational Questions

- What is the BW "threat"?
  - What bio-agents can be effectively delivered by which mechanisms under what conditions and which are the most effective?
  - What will the effect on the base be?
- What is the residual hazard posed by re-aerosolization, surface contact, or person-to-person transfer?
- How much can we rely on our detectors?
  - How do we better use our detection and identification equipment based upon the character of the attack?
- What can we do about a BW attack?
  - How do vaccination, antibiotics, masking, restriction of movement, and decon impact the effects of the attack?
- What are the critical timelines for implementing responses?

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KFE Lessons: The BW Threat

- Many effective BW attacks are possible with different agents and delivery means, but there are significant challenges
  - Large scale military application of BW has never been done
    - Requires the development and production of quality agents and delivery methods (large scale testing)
    - All of the pieces have been done but there is high uncertainty when linking them all together
- Combat capability may be affected by BW attack
  - Limited operational flexibility with large casualties particularly within key AFSCs
  - Mission degradation varies by agent (disease) type

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KFE Lessons: BW Residual Hazard

- Large area decon may not significantly reduce outdoor residual hazard
  - Difficult to determine where to decon and to verify effectiveness
- Most BW agents are not persistent
  - Time and sunlight reduce most agent levels significantly
  - Anthrax may reaerosolize from vehicle movement in the vicinity of agent release (high deposition)
- Other protective measures may be available (e.g., prophy, masks, etc)

Decon may not be possible or required

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KFE Lessons: BW Detection and Identification

- Timely detection of covert attacks is difficult due to agent identification technology insensitivities and operational modes
- Sentinel casualties are likely first indicator of many attacks
  - Still require diagnosis (agent identification) for best treatment and hazard management

Focus on medical surveillance and education to more quickly recognize and isolate infected personnel

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KFE Lessons: C-BW Responses

- MCU-2 mask provides good protection, but must be worn during the attack – detection limitations make this unlikely
- Vaccine and/or prophylaxis treatment is highly effective for some BW agents
- Additional disease containment measures are important for contagious diseases
  - Social distancing, personal hygiene, restriction of movement and quarantine measures can significantly reduce casualties
  - Surgical masks worn by infected personnel can reduce secondary infections

The diversity of the BW threat and the limitations of current C-BW capabilities mandate a layered defense strategy

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KFE Lessons: Response Timelines

- Medical intervention is most effective before symptoms
  - Pre-attack vaccination of personnel for smallpox and anthrax is very beneficial
- Timelines for mass prophylaxis in response to sentinel casualties are very short
  - Agent-specific

Maximum effectiveness requires a planned and exercised response

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KFE Lessons: Managed Risk Strategy

- Use new procedures to compensate for equipment shortfalls
- Layered response actions required – no "silver bullet" technology
- Involve entire base population
- Organize responses around "trigger" events:
  - Intelligence Warning
  - Weapon Event
  - Detector Alarm
  - Sentinel Casualty
- With few exceptions the responses are additive, BUT…
  - The risk/benefit calculation to implement a specific action changes based upon the trigger

Risk management requires a sophisticated understanding of the biological hazard environment

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KFE Lessons: Layered BW Defense

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C-BW Responses By Trigger Event

Intelligence Warning:

- Initiate vaccination
- Distribute/ initiate prophylaxis
- Elevate detector status
  - 24/7 & smart mode
- Restrict movement
  - Minimize contacts, close facilities, cancel events
- Implement collective protection
- Increase MOPP
- Increase FPCON
- Increase surveillance
  - Med, air, food, and water

Weapon Event:

- Take shelter
- Run detectors in manual mode
- Restrict assess to impact areas
- Conduct environmental bio sampling

Detector System Alarm:

- Don military mask / increase MOPP
- Implement contamination avoidance
  - Personal hygiene and decon
- Conduct forensic sampling
- Confirm detection via RAPIDS or ECL

Sentinel Casualties:

- Clinical diagnosis and treatment
- Quarantine and isolate personnel
- Don surgical masks (if contagious)
- Casualty management planning and preparation
- Personnel management decisions

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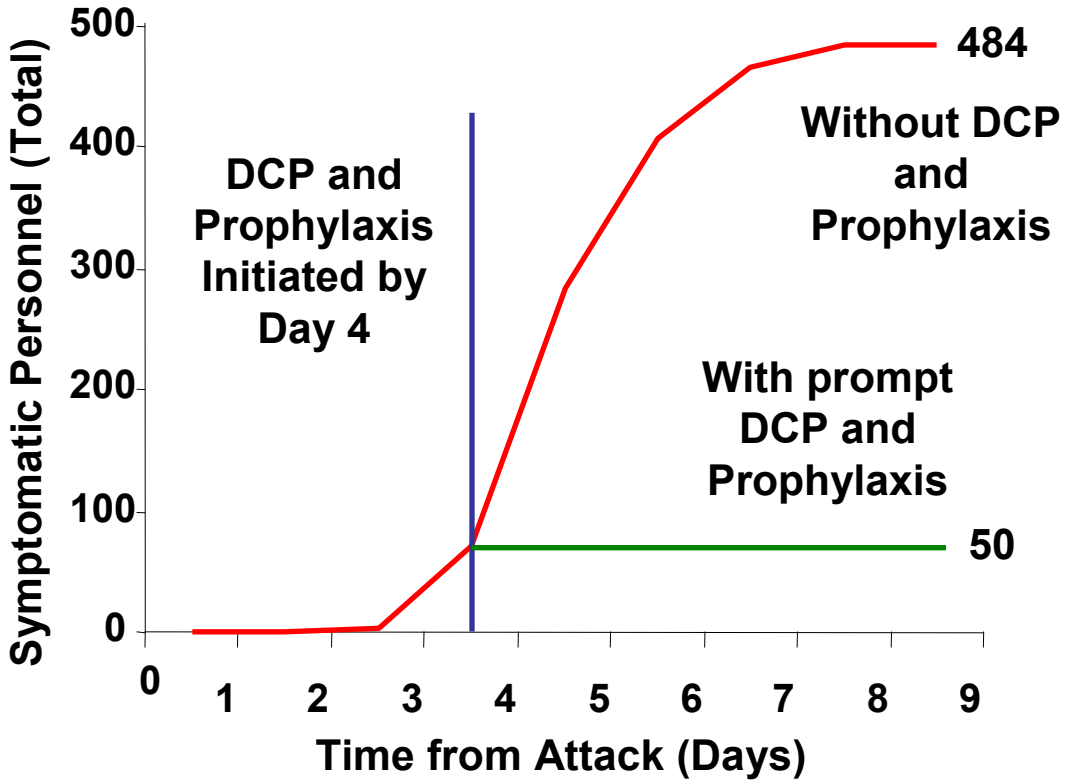
Validation FTX (Apr 05)

- Three-day wing-wide exercise to validate strategies and TTPs
  - Initial response through sustainment and recovery
  - Mission requirements consistent with wartime taskings
- Quick recognition and execution of DCP was key to effective response
- Pre-distribution of prophylaxis reduced casualties and prevented deaths
  - Reduced direct casualties by ≈ 90%



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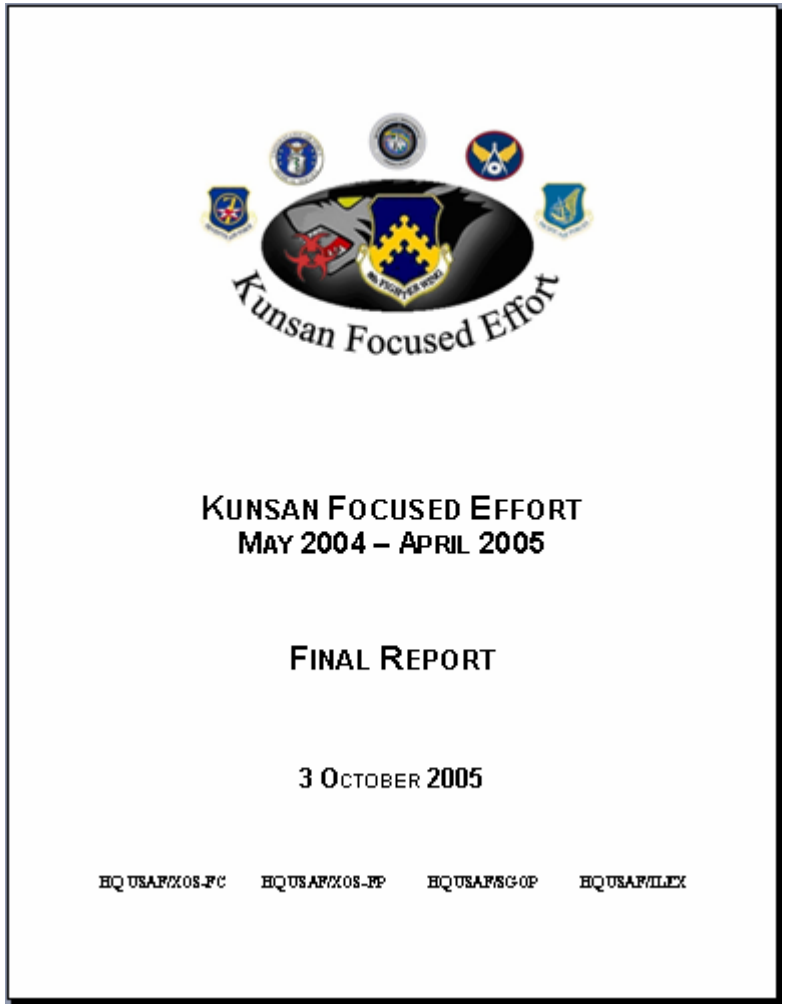
KFE Final Report

- Entered coordination on 3 Oct 05
- Findings and recommendations:
  - Threat & Hazard Environment
  - Detection & Identification
  - Protection & Decontamination
  - Disease Containment
  - Operations
- Working towards:
  - CSAF approval
  - Final out-briefs to 8 FW, 7 AF, USFK, PACAF, PACOM



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KFE Products & Tools

Education & Training

- BW Threat Intel Brief
- BW Threat Analysis & Briefing
- Bio Agent Smart Cards
- BW Knowledge Survey
- Operational Impact Analysis & Briefings

Sampling, Detection, & ID

- Biological Agent Testing Guidance
- Equipment Optimization Analysis

Decontamination

- Residual Hazard Database
- Decontamination Matrix

Disease Containment

- Disease Containment Plan
- Medical Treatment Protocols Guidelines

Decision Support / Wing Commander & Staff Tools

- Commander's Decision Tool
- Threat Working Group Charter
- Public Affairs Toolbox
- Legal Review and Analysis
- Force Protection Measures
- Mask/De-Mask Matrix
- AF Procedures for Investigating a Bio Event

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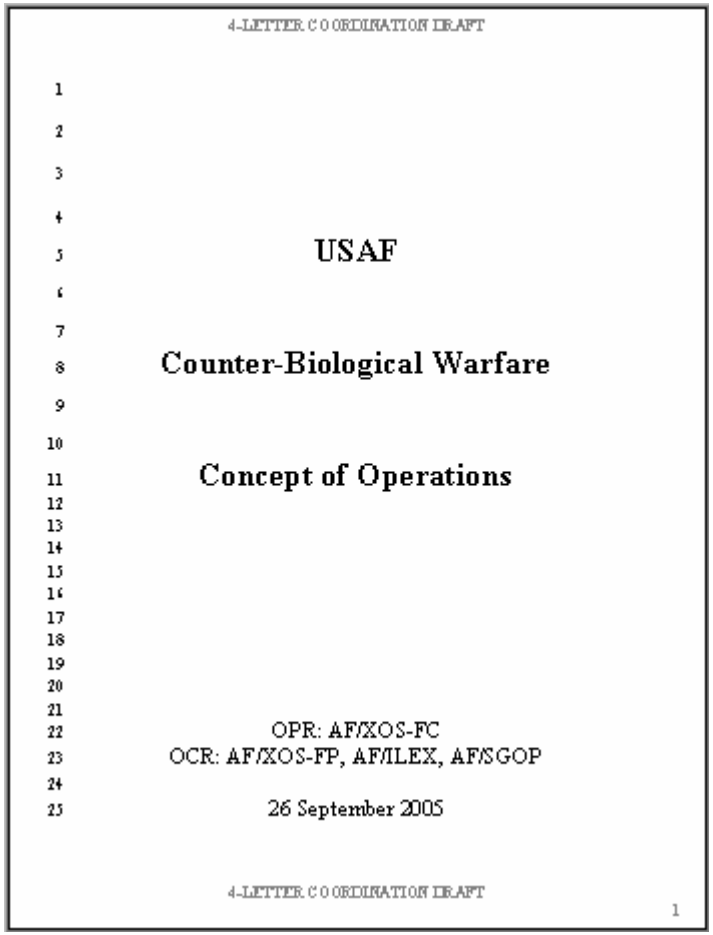
C-BW CONOPS

- High-level concepts for how to work through a biological event
  - Addresses planning, response, and mission sustainment and recovery
  - Focuses on base-level actions
  - Based on KFE findings
- Entered coordination on 26 Sep 05
- Working towards:
  - CSAF signature by Dec 05
  - AF-wide implementation complete by Apr 07



4-LETTER COORDINATION DRAFT

USAF

Counter-Biological Warfare

Concept of Operations

OPR: AF/XOS-FC
OCR: AF/XOS-FP, AF/ILEX, AF/SGOP

26 September 2005

4-LETTER COORDINATION DRAFT

1

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Tenets of C-BW CONOPS (1 of 2)

- CONOPS applies to all biological events
  - Biological warfare
  - Biological terrorism
  - Naturally occurring disease outbreaks
- Commanders decision making abilities may be hampered
  - Information will be limited
  - Timeline for actions will be compressed
  - Requires balancing mission criticality and risk to personnel
- CONOPS is based on Trigger Event Concept
  - The trigger event will determine the appropriate responses to the BW event

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Tenets of C-BW CONOPS (2 of 2)

- Preparation will determine the response options available
- Measures to maintain operations:
  - Minimize casualties through layered defenses
    - Avoid exposure
    - Mitigate impacts of exposure
  - Risk Management Strategy
    - Understanding the hazard and operational implications is essential to implementing risk management strategy
    - Requires education and training (ETE Initiative)

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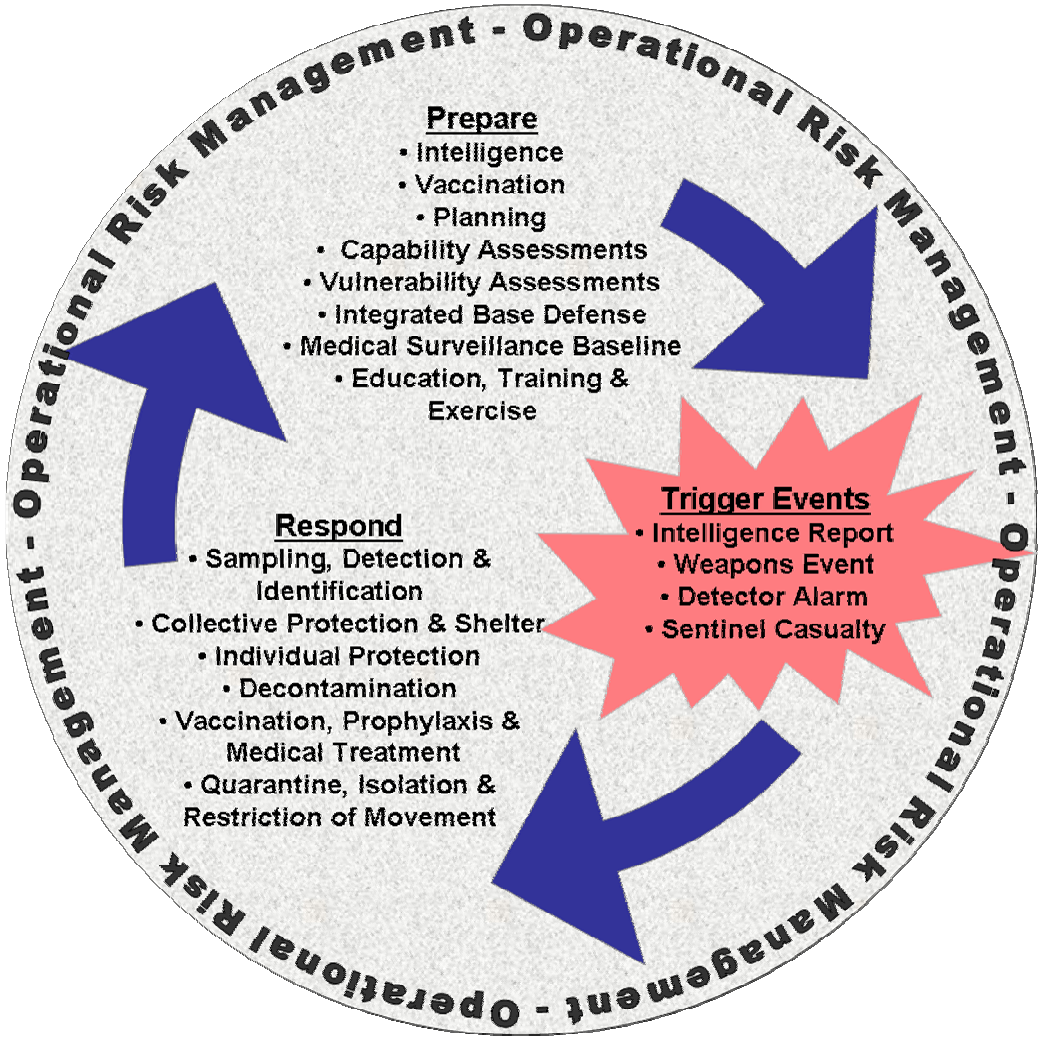
C-BW CONOPS Approach

- Prevent or minimize personnel exposure
- Mitigate the impact of exposure
- Balance protection of personnel with need to sustaining operations
  - Apply ORM principles, techniques, and decision tools
  - Make best use of layered defense strategy
- Implementation requires guidance and training not new equipment



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C-BW CONOPS Way Ahead

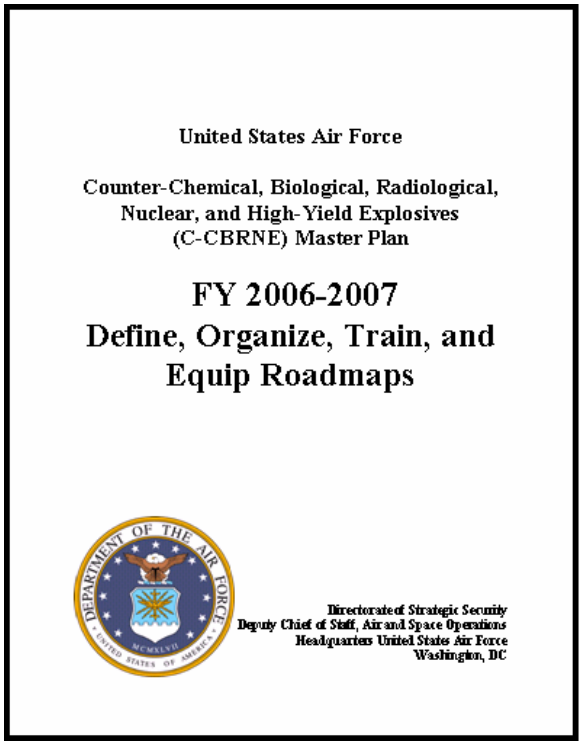
- Implement C-BW CONOPS at other constructs (i.e., different missions, populations, and operational imperatives)
- Publish C-BW policy, guidance, and TTPs
- Education, train, and exercise AF personnel
- Expand scientific and technical analysis

KFE Products

KFE Final Report

C-BW CONOPS

C-BW CONOPS Implementation Working Group (Air Staff & MAJCOMs)


United States Air Force

Counter-Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (C-CBRNE) Master Plan

FY 2006-2007
Define, Organize, Train, and Equip Roadmaps

Directorate of Strategic Security
Deputy Chief of Staff, Air and Space Operations
Headquarters United States Air Force
Washington, DC

Implementation activities tracked through C-CBRNE Roadmaps

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QUESTIONS?

https://www.xo.hq.af.mil/xos/xosf/xosfc/c-cbrne_resources/index.shtml (UNCLASSIFIED)
http://chembio.xo.af.pentagon.smil.mil/bio-smallpox.shtml (CLASSIFIED)